

Claim Amendments

1-22. (canceled)

23. (new) A zinc-containing optical glass, suitable for use as an optical element, with a refractive index ( $n_d$ ) being in the range of from about 1.52 to about 1.66 and an Abbe number ( $v_d$ ) being in the range of from about 35 to about 54;

Q1 said zinc-containing optical glass comprising, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	38 - 58
ZnO	0.3 - 42
PbO	0 - <30
sum of ZnO+PbO	20 - 55
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 14
K <sub>2</sub> O	0 - 12
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6

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CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5.

*Q1*  
*Cont*  
24. The zinc-containing optical glass according to Claim 23, including one of (A), (B), (C), (D), (E), (F), (G), (H), (I), (J), and (K) wherein (A), (B), (C), (D), (E), (F), (G), (H), (I), (J), and (K) are as follows:

(A) said zinc-containing optical glass comprises at least one refining agent, said refining agent being in an amount indicating sufficient agent to refine said zinc-containing optical glass;

(B) the refractive index ( $n_d$ ) is in the range of from about 1.54 to about 1.64 and the Abbe number ( $v_d$ ) is in the range of from about 40 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	Percentage <u>by weight</u>
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SiO <sub>2</sub>	39 - 54
ZnO	12 - 41
PbO	6 - 22
sum of ZnO+PbO	31 - 52
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 13
K <sub>2</sub> O	0 - 11
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5;

*Al Cont*

(C) the refractive index ( $n_d$ ) is in the range of from about 1.56 to about 1.63 and the Abbe number ( $v_d$ ) is in the range of from about 42 to about 52, and said zinc-containing optical glass comprises, on

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an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	40 - 55
ZnO	26 - 41
PbO	1 - 16
sum of ZnO+PbO	31 - 48
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 12
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5;

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(D) the refractive index ( $n_d$ ) is in the range of from about 1.60 to about 1.63 and the Abbe number ( $v_d$ ) is in the range of from about 43 to about 47, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	40 - 47
ZnO	32 - 41
PbO	5 - 14
sum of ZnO+PbO	40 - 48
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 12
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1

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$\text{Al}_2\text{O}_3$	0 - <1.5
$\text{ZrO}_2$	0 - <2
$\text{Cs}_2\text{O}$	up to at most about 2.5;

(E) the refractive index ( $n_d$ ) is in the range of from about 1.57 to about 1.59 and the Abbe number ( $v_d$ ) is in the range of from about 48 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

*Al Cont*

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
$\text{SiO}_2$	41 - 50
$\text{ZnO}$	30 - 40
$\text{PbO}$	0 - 1
sum of $\text{ZnO}+\text{PbO}$	31 - 41
$\text{Li}_2\text{O}$	0 - <3
$\text{Na}_2\text{O}$	0 - 11
$\text{K}_2\text{O}$	0 - 10
sum of $\text{Li}_2\text{O}+\text{Na}_2\text{O}+\text{K}_2\text{O}$	$\geq 2$
F	0 - 3
$\text{MgO}$	0 - 6
$\text{CaO}$	0 - <5

SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5;

*Al Cont.*  
(F) the light transmission of the glass, determined at a wavelength of 400 nm and a 25 mm specimen thickness, is at least about 0.98;

(G) said zinc-containing optical glass further comprises up to about 8% by weight of a coloring component;

said coloring component is a member of the group and combinations thereof: CuO, Cr<sub>2</sub>O<sub>3</sub>, CoO, Fe<sub>2</sub>O<sub>3</sub>, MnO, NiO, and V<sub>2</sub>O<sub>5</sub>;

said optical glass comprises an optical filter;

(H) said zinc-containing optical glass further comprises in total one of: up to about 1% by weight of a refining agent and up to about 0.5% by weight of a refining agent;

said refining agent is at least one member of the group and combinations thereof: As<sub>2</sub>O<sub>3</sub> and Sb<sub>2</sub>O<sub>3</sub>;

(I) the sum of the content of ZnO plus the content of PbO is in

the range of from about 21% to about 55% by weight;

(J) the total content of CaO plus SrO is in the range of from 0% to 5% by weight; and

(K) said optical glass comprises an optical element.

25. (new) A zinc-containing optical glass, suitable for use as an optical element, with a refractive index ( $n_d$ ) being in the range of from about 1.52 to about 1.66 and an Abbe number ( $v_d$ ) being in the range of from about 35 to about 54;

said zinc-containing optical glass comprising, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	38 - 58
ZnO	0.3 - 42
PbO	0 - <30
sum of ZnO+PbO	20 - 55
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 14
K <sub>2</sub> O	0 - 12
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2



F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2

a1  
up to about 5% by weight of one member of the group and combinations thereof: Rb<sub>2</sub>O, La<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and GeO<sub>2</sub> to adapt the optical properties of said zinc-containing optical glass.


26. (new) The zinc-containing optical glass according to Claim 25, further comprising up to at most about 2.5% by weight of Cs<sub>2</sub>O.

27. (new). The zinc-containing optical glass according to Claim 26, including one of (A), (B), (C), (D), (E), (F), (G), (H), (I), and (J), wherein (A), (B), (C), (D), (E), (F), (G), (H), (I), and (J) are as follows:

(A) said zinc-containing optical glass comprises at least one refining agent, said refining agent being in an amount indicating

sufficient agent to refine said zinc-containing optical glass;

(B) the refractive index ( $n_d$ ) is in the range of from about 1.54 to about 1.64 and the Abbe number ( $v_d$ ) is in the range of from about 40 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:



<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	39 - 54
ZnO	12 - 41
PbO	6 - 22
sum of ZnO+PbO	31 - 52
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 13
K <sub>2</sub> O	0 - 11
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9

$B_2O_3$	0 - <1
$Al_2O_3$	0 - <1.5
$ZrO_2$	0 - <2
$Cs_2O$	up to at most about 2.5

*Q1 Cont*

up to about 5% by weight of one member of the group and combinations thereof:  $Rb_2O$ ,  $La_2O_3$ ,  $Y_2O_3$ , and  $GeO_2$  to adapt the optical properties of said zinc-containing optical glass;

(C) the refractive index ( $n_d$ ) is in the range of from about 1.56 to about 1.63 and the Abbe number ( $v_d$ ) is in the range of from about 42 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
$SiO_2$	40 - 55
$ZnO$	26 - 41
$PbO$	1 - 16
sum. of $ZnO+PbO$	31 - 48
$Li_2O$	0 - <3
$Na_2O$	0 - 12

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K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5

up to about 5% by weight of one member of the group and combinations thereof: Rb<sub>2</sub>O, La<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and GeO<sub>2</sub> to adapt the optical properties of said zinc-containing optical glass;

(D) the refractive index ( $n_d$ ) is in the range of from about 1.60 to about 1.63 and the Abbe number ( $v_d$ ) is in the range of from about 43 to about 47, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	Percentage
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by weight

SiO<sub>2</sub> 40 - 47

ZnO 32 - 41

PbO 5 - 14

sum of ZnO+PbO 40 - 48

Li<sub>2</sub>O 0 - <3

Na<sub>2</sub>O 0 - 12

K<sub>2</sub>O 0 - 10

sum of Li<sub>2</sub>O+Na<sub>2</sub>O+K<sub>2</sub>O ≥ 2

F 0 - 3

MgO 0 - 6

CaO 0 - <5

SrO 0 - 6

BaO 0 - <0.9

B<sub>2</sub>O<sub>3</sub> 0 - <1

Al<sub>2</sub>O<sub>3</sub> 0 - <1.5

ZrO<sub>2</sub> 0 - <2

Cs<sub>2</sub>O up to at most about 2.5

up to about 5% by weight of one member of the group and  
combinations thereof: Rb<sub>2</sub>O, La<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and GeO<sub>2</sub> to

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adapt the optical properties of said zinc-containing optical glass;

(E) the refractive index ( $n_d$ ) is in the range of from about 1.57 to about 1.59 and the Abbe number ( $v_d$ ) is in the range of from about 48 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	41 - 50
ZnO	30 - 40
PbO	0 - 1
sum of ZnO+PbO	31 - 41
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 11
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6

BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5

*Q1 Cont*  
up to about 5% by weight of one member of the group and combinations thereof: Rb<sub>2</sub>O, La<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and GeO<sub>2</sub> to adapt the optical properties of said zinc-containing optical glass;

(F) the light transmission of the glass, determined at a wavelength of 400 nm and a 25 mm specimen thickness, is at least about 0.98;

(G) said zinc-containing optical glass further comprises up to about 8% by weight of a coloring component;

said coloring component is a member of the group and combinations thereof: CuO, Cr<sub>2</sub>O<sub>3</sub>, CoO, Fe<sub>2</sub>O<sub>3</sub>, MnO, NiO, and V<sub>2</sub>O<sub>5</sub>;

said optical element comprises an optical filter;

(H) said zinc-containing optical glass further comprises in total one of: up to about 1% by weight of a refining agent and up to about 0.5% by weight of a refining agent;

said refining agent is at least one member of the group and combinations thereof:  $\text{As}_2\text{O}_3$  and  $\text{Sb}_2\text{O}_3$ ;

(I) the sum of the content of  $\text{ZnO}$  plus the content of  $\text{PbO}$  is in the range of from about 21% to about 55% by weight; and

(J) the total content of  $\text{CaO}$  plus  $\text{SrO}$  is in the range of from 0% to 5% by weight.

*21 Cont*  
28. (new) The zinc-containing optical glass according to Claim 26, wherein said optical glass comprises an optical element.

29. (new) The zinc-containing optical glass according to Claim 28, including one of (A), (B), (C), (D), (E), (F), (G), (H), (I), and (J), wherein (A), (B), (C), (D), (E), (F), (G), (H), (I), and (J) are as follows:

(A) said zinc-containing optical glass comprises at least one refining agent, said refining agent being in an amount indicating sufficient agent to refine said zinc-containing optical glass;

(B) the refractive index ( $n_d$ ) is in the range of from about 1.54 to about 1.64 and the Abbe number ( $v_d$ ) is in the range of from about 40 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

Material

Percentage



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by weight

SiO<sub>2</sub> 39 - 54

ZnO 12 - 41

PbO 6 - 22

sum of ZnO+PbO 31 - 52

Li<sub>2</sub>O 0 - <3

Na<sub>2</sub>O 0 - 13

K<sub>2</sub>O 0 - 11

sum of Li<sub>2</sub>O+Na<sub>2</sub>O+K<sub>2</sub>O ≥2

F 0 - 3

MgO 0 - 6

CaO 0 - <5

SrO 0 - 6

BaO 0 - <0.9

B<sub>2</sub>O<sub>3</sub> 0 - <1

Al<sub>2</sub>O<sub>3</sub> 0 - <1.5

ZrO<sub>2</sub> 0 - <2

Cs<sub>2</sub>O up to at most about 2.5

up to about 5% by weight of one member of the group and  
combinations thereof: Rb<sub>2</sub>O, La<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and GeO<sub>2</sub> to

adapt the optical properties of said zinc-containing optical glass;

(C) the refractive index ( $n_d$ ) is in the range of from about 1.56 to about 1.63 and the Abbe number ( $v_d$ ) is in the range of from about 42 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

*Al Cont*

<u>Material</u>	<u>Percentage by weight</u>
SiO <sub>2</sub>	40 - 55
ZnO	26 - 41
PbO	1 - 16
sum of ZnO+PbO	31 - 48
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 12
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6

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BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5

*Cont*

up to about 5% by weight of one member of the group and combinations thereof: Rb<sub>2</sub>O, La<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and GeO<sub>2</sub> to adapt the optical properties of said zinc-containing optical glass;

(D) the refractive index ( $n_d$ ) is in the range of from about 1.60 to about 1.63 and the Abbe number ( $v_d$ ) is in the range of from about 43 to about 47, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	40 - 47
ZnO	32 - 41
PbO	5 - 14
sum of ZnO+PbO	40 - 48
Li <sub>2</sub> O	0 - <3

Na <sub>2</sub> O	0 - 12
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2
Cs <sub>2</sub> O	up to at most about 2.5

up to about 5% by weight of one member of the group and combinations thereof: Rb<sub>2</sub>O, La<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and GeO<sub>2</sub> to adapt the optical properties of said zinc-containing optical glass;

(E) the refractive index ( $n_d$ ) is in the range of from about 1.57 to about 1.59 and the Abbe number ( $v_d$ ) is in the range of from about 48 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

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Material

Percentage

by weight

SiO<sub>2</sub>

41 - 50

ZnO

30 - 40

PbO

0 - 1

sum of ZnO+PbO

31 - 41

Li<sub>2</sub>O

0 - <3

Na<sub>2</sub>O

0 - 11

K<sub>2</sub>O

0 - 10

sum of Li<sub>2</sub>O+Na<sub>2</sub>O+K<sub>2</sub>O

≥2

F

0 - 3

MgO

0 - 6

CaO

0 - <5

SrO

0 - 6

BaO

0 - <0.9

B<sub>2</sub>O<sub>3</sub>

0 - <1

Al<sub>2</sub>O<sub>3</sub>

0 - <1.5

ZrO<sub>2</sub>

0 - <2

Cs<sub>2</sub>O

up to at most about 2.5

up to about 5% by weight of one member of the group and

combinations thereof:  $\text{Rb}_2\text{O}$ ,  $\text{La}_2\text{O}_3$ ,  $\text{Y}_2\text{O}_3$ , and  $\text{GeO}_2$  to adapt the optical properties of said zinc-containing optical glass;

(F) the light transmission of the glass, determined at a wavelength of 400 nm and a 25 mm specimen thickness, is at least about 0.98;

*Q1 Cont*  
(G) said zinc-containing optical glass further comprises up to about 8% by weight of a coloring component;

said coloring component is a member of the group and combinations thereof:  $\text{CuO}$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{CoO}$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{MnO}$ ,  $\text{NiO}$ , and  $\text{V}_2\text{O}_5$ ;

said optical element comprises an optical filter;

(H) said zinc-containing optical glass further comprises in total one of: up to about 1% by weight of a refining agent and up to about 0.5% by weight of a refining agent;

said refining agent is at least one member of the group and combinations thereof:  $\text{As}_2\text{O}_3$  and  $\text{Sb}_2\text{O}_3$ ;


(I) the sum of the content of  $\text{ZnO}$  plus the content of  $\text{PbO}$  is in the range of from about 21% to about 55% by weight; and

(J) the total content of  $\text{CaO}$  plus  $\text{SrO}$  is in the range of from 0% to 5% by weight.

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30. (new) A zinc-containing optical glass, suitable for use as an optical element, with a refractive index ( $n_d$ ) being in the range of from about 1.52 to about 1.66 and an Abbe number ( $v_d$ ) being in the range of from about 35 to about 54;

said zinc-containing optical glass comprising, on an oxide basis, the composition of:



<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	38 - 58
ZnO	0.3 - 42
PbO	0 - <30
sum of ZnO+PbO	20 - 55
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 14
K <sub>2</sub> O	0 - 12
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6

BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2.

*Al Cont* 31. (new) The zinc-containing optical glass according to claim 30, wherein said zinc-containing optical glass comprises at least one refining agent, said refining agent being in an amount indicating sufficient agent to refine said zinc-containing optical glass.

32. (new) The zinc-containing optical glass according to claim 30, wherein the refractive index ( $n_d$ ) is in the range of from about 1.54 to about 1.64 and the Abbe number ( $v_d$ ) is in the range of from about 40 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	39 - 54
ZnO	12 - 41
PbO	6 - 22
sum. of ZnO+PbO	31 - 52
Li <sub>2</sub> O	0 - <3



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Na <sub>2</sub> O	0 - 13
K <sub>2</sub> O	0 - 11
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2.

33. (new) The zinc-containing optical glass according to claim 30, wherein the refractive index ( $n_d$ ) is in the range of from about 1.56 to about 1.63 and the Abbe number ( $V_d$ ) is in the range of from about 42 to about 52, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	40 - 55
ZnO	26 - 41

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PbO	1 - 16
sum of ZnO+PbO	31 - 48
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 12
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2.

34. (new) The zinc-containing optical glass according to claim 30, wherein the refractive index ( $n_d$ ) is in the range of from about 1.60 to about 1.63 and the Abbe number ( $v_d$ ) is in the range of from about 43 to about 47, and said zinc-containing optical glass comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u>
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by weight

SiO <sub>2</sub>	40 - 47
ZnO	32 - 41
PbO	5 - 14
sum of ZnO+PbO	40 - 48
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 12
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2.

35. (new) The zinc-containing optical glass according to claim 30, wherein the refractive index ( $n_d$ ) is in the range of from about 1.57 to about 1.59 and the Abbe number ( $v_d$ ) is in the range of from

about 48 to about 52, and said zinc-containing optical glass  
comprises, on an oxide basis, the composition of:

<u>Material</u>	<u>Percentage</u> <u>by weight</u>
SiO <sub>2</sub>	41 - 50
ZnO	30 - 40
PbO	0 - 1
sum of ZnO+PbO	31 - 41
Li <sub>2</sub> O	0 - <3
Na <sub>2</sub> O	0 - 11
K <sub>2</sub> O	0 - 10
sum of Li <sub>2</sub> O+Na <sub>2</sub> O+K <sub>2</sub> O	≥2
F	0 - 3
MgO	0 - 6
CaO	0 - <5
SrO	0 - 6
BaO	0 - <0.9
B <sub>2</sub> O <sub>3</sub>	0 - <1
Al <sub>2</sub> O <sub>3</sub>	0 - <1.5
ZrO <sub>2</sub>	0 - <2.

36. (new) The zinc-containing optical glass according to claim 30, wherein the light transmission of the glass, determined at a wavelength of 400 nm and a 25 mm specimen thickness, is at least about 0.98.

37. (new) The zinc-containing optical glass according to claim 30, wherein said zinc-containing optical glass further comprises up to about 8% by weight of a coloring component.

*Al Cont*  
38. (new) The zinc-containing optical glass according to claim 37, wherein said coloring component is a member of the group and combinations thereof: CuO, Cr<sub>2</sub>O<sub>3</sub>, CoO, Fe<sub>2</sub>O<sub>3</sub>, MnO, NiO, and V<sub>2</sub>O<sub>5</sub>.

39. (new) The zinc-containing optical glass according to claim 37, wherein said optical element comprises an optical filter.

40. (new) The zinc-containing optical glass according to claim 30, wherein said zinc-containing optical glass further comprises in total up to about 1% by weight of a refining agent.

41. (new) The zinc-containing optical glass according to claim 40, wherein and up to about 0.5% by weight of a refining agent.

42. (new) The zinc-containing optical glass according to claim 41, wherein said refining agent is at least one member of the group and combinations thereof: As<sub>2</sub>O<sub>3</sub> and Sb<sub>2</sub>O<sub>3</sub>.

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43. (new) The zinc-containing optical glass according to claim 30, wherein the sum of the content of ZnO plus the content of PbO is in the range of from about 21% to about 55% by weight.

*A1*  
*Cont*  
44. (new) The zinc-containing optical glass according to claim 30, wherein the total content of CaO plus SrO is in the range of from 0% to 5% by weight.

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